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## SOIL REQUIREMENTS OF SOYA

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*Today, the role and importance of the agricultural sector in ensuring food security of the population around the world is increasing day by day. One of the important tasks in our country is to rationally use the available resources and opportunities to provide the population with guaranteed agricultural and food products, further increase productivity and profitability, and process the grown agricultural products. As a legume, soybean is the best predecessor crop for all types of agricultural crops, including winter cereals, cotton, corn, and vegetable crops. This article provides information on soybean cultivation techniques and row spacing.*

In the Central Asian republics, including our republic, soybean cannot be grown without irrigation. Water is of great importance during the vegetation period. Therefore, if there is enough water, the life of soybean will be normal. If there is not enough water, it will stop growing and bearing fruit, wilt, and even dry up. A wilted plant will drop its flowers, and as a result, the harvest process will be interrupted. It gets worse. Farms in the well-watered regions of our republic have the opportunity to plant soybean varieties as the main crop, which increase soil fertility and provide the population with food and nutritious feed for livestock. This is a pressing issue at a time when farming is developing. By developing optimal planting schemes and timing for soybean as the main crop, it is possible to maintain and increase soil fertility.

Developing planting dates and systems for soybean varieties under typical soil conditions will help to some extent in achieving these goals. When mineral fertilizers are not used, soybean varieties produce less yield in terms of total number of stems, their diameter, length, number of nodes and leaves, regardless of the amount of mineral fertilizers used.

It is possible to maintain and increase productivity. The development of sowing dates and systems for soybean varieties under typical gray soil conditions will serve to a certain extent in the implementation of such goals. Without the use of mineral fertilizers, the total number

of stems, their diameter, length, number of joints and leaves, regardless of the amount, yield of soybean varieties is lower than with the use of mineral fertilizers. Experimental work is being carried out on the varieties "Selekta-201", "Selekta-302" and "Hosildor" in the spring sowing scheme of 70x8x2 and 90x(60x30) x8x2.

We will focus on the soil requirements of soybeans and soybean care. Soybeans can be grown in a variety of soil and climatic conditions. Due to this feature, soybeans are planted in many areas in different regions of the world. Soybeans are considered a heat-loving plant. Their seeds germinate at 6-7 °C, and the optimal temperature for germination of their shoots is 12-14 °C. The growth and development of soybeans and the quality and composition of the crop are highly influenced by external environmental factors. Each influencing factor leads to different consequences. Low and high air temperatures are factors that reduce or prevent the development of leaves and flowers. Evening heat above 29 °C leads to a 10 percent decrease in yield. Excessively hot, low air humidity in areas also leads to poor grain filling and a decrease in yield. Therefore, when growing soybeans in regions with a dry climate, it is necessary to correctly determine the amount of irrigation.

Soil requirements. Soybean is a plant that is demanding on soil fertility. Usually, medium (neutral) pH 6.0-6.5 soil acidity is considered the norm for soybean. High yields of soybean can be obtained on soils with a neutral environment, fertile, rich in humus, and good permeability. When soybean is grown on saline soils, the yield decreases sharply. It is less drought-resistant than barley and wheat, but more resistant than corn. Nitrogen-fixing bacteria in soybean roots cannot develop well in acidic soils, so it is advisable not to use fertilizers containing it. Usually, optimal climatic and soil conditions for corn are favorable for soybean cultivation.

Soybean care. The first cultivation is carried out after the grass sprouts. The next cultivation is carried out depending on the weed infestation of the field, the condition of the soil, and the maturity of the soil after irrigation. Inter-row cultivation is carried out every 10-15 days, depending on the condition of the field. The first cultivation should be 6-8 cm deep, and the subsequent ones should be 10-15 cm deep. Inter-row cultivation is of great importance for the good growth and development of the plant. This improves the water-physical, agrochemical and microbiological properties of the soil, as well as the nutrient regime, and some weeds are eliminated. Therefore, special attention is paid to the depth of cultivation and its number.

Moisture requirements. Soybeans are relatively moisture-demanding. For their seeds to germinate, they need to absorb 90-150% of their own weight in water. The most water-demanding period is during the flowering-grain filling period. Soybeans consume 29.8% of the water consumed during the entire growth period before flowering, and 70.2% during the flowering-seeding period.

A good predecessor for. Numerous experiments show that wheat is the best predecessor for soybeans. It accumulates 150-250 kg of nitrogen per hectare during the season.

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Fertilization. Soybeans are demanding on organic and mineral fertilizers. When 30-40 tons of manure were applied per 1 ha of area, soybean yield increased by 5-6 t/ha, and its positive effect was maintained for the next 3-4 years. Soybeans produce 20 t/ha of grain and, accordingly, absorb 140-150 kg of nitrogen, 30-40 kg of phosphorus and 40-50 kg of potassium from the soil to form vegetative organs.

Soybeans absorb nutrients very quickly from flowering to pod filling. When applying nitrogen fertilizers, the biological characteristics of the soybean plant are taken into account. Nitrogen fertilizers are applied at a rate of 30-50 kg per hectare. On gray soils, it is recommended to apply 50 kg of nitrogen until nodules form.

Excessive use of nitrogen fertilizers inhibits the activity of root-knot bacteria, prolongs the growing season, and often causes the plant to become dormant.

Soybeans rapidly absorb phosphorus from the flowering to the pod formation phase. Phosphorus accelerates the assimilation of atmospheric nitrogen by nodular bacteria. It is recommended to apply 90-100 kg/ha of phosphorus to soybeans. 20-30% of it is applied before or with sowing. Potassium is applied at a rate of 40-50 kg per hectare. Thus, the annual rate of mineral fertilizers for soybeans on irrigated lands is 30-50 kg/ha of nitrogen, 90-100 kg/ha of phosphorus, and 40-50 kg/ha of potassium. The use of nitrogen has provided an additional grain yield of 6-11 t/ha in various soil conditions of Uzbekistan. Seeds should be treated with nitrogen before sowing.

Harvesting: One of the unique characteristics of the soybean plant is that most varieties of it naturally shed 75-90 percent of the leaves on the stem, indicating that the grains are beginning to ripen. Another sign of soybean maturity is that the color of the stem and pods often changes to straw-yellow, gray, beige, or brownish yellow, reflecting the characteristics of the varieties planted.

Depending on these signs, the soybeans are harvested. By harvesting and crushing the soybeans one by one, the combine harvesters "Don 1500", "Klass" and other combine harvesters are used, their blades are lowered to 10-12 cm, and the number of revolutions of the threshing machine drums is reduced to 400-500 times per minute, otherwise the soybeans will split. The moisture content of soybeans should not decrease or increase from 14-16%.

The splitting of the soybean grain is observed. It is also important that the moisture content of the soybeans does not decrease or increase by more than 14-16%. Before harvesting, weeds in the field, especially the sedge, must be manually removed, otherwise the quality of the soybeans will deteriorate significantly. The areas around the soybean fields, the combine harvester return points, and the arrow ditches are leveled and the field is prepared for the combine. The harvested soybeans are dried in threshing floors to a moisture content of 13-14%, cleaned using a "Petkus" machine, sorted, and placed in separate bags and stored on specially designed racks in warehouses. Also, after harvesting soybeans, its straw is collected, dried, collected and ground in DKUs, because it is a feed that provides

high-quality protein for all types of livestock, 100 kg of pure soybean straw is equivalent to an average of 38-42 feed units, and it contains an average of 5.7-6.2 kg of digestible protein, which means that it is considered a livestock feed that is more than 2 times more nutritious than corn silage prepared together with soya, and it is possible to harvest up to 76-78 centners of soybean straw per hectare. Accordingly, it is a waste-free crop. This is why many farms and farms that feed their livestock use it. The livestock (cattle) in your hands are highly productive, and the animals look good even in winter, and are distinguished by their fat and vigorous nature.

Variety Selekt 201. Early maturing, high-yielding variety. Oil content 21.0-23.0 percent. Stem erect, height 115-130 cm., location of the first pods 13-15 cm. Each pod contains 3 seeds. 1000 The weight of each seed is 180-200 grams. The growing season is 108-112 days. The average yield is 26.0 centners per hectare, the yield potential of the variety is 44.5 centners per hectare. Suitable for mechanized cultivation.

Variety Selekt 302. Mid-ripening, high-yielding variety. Oil content 21.0-23.0 percent. The stem is erect, up to 120-150 cm high, the first pods are located at a distance of 14-16 cm. Each pod contains 3 seeds. The weight of 1000 seeds is 170-190 grams. The growing season is 115-117 days, the average yield is 29.5 centners per hectare, the variety's potential is 49.5-53.7 centners per hectare. Suitable for mechanized cultivation.

A productive variety. Mid-ripening, high-yielding variety. Oil content 25.0-27.0 percent. The stem is erect, up to 100-110 cm high, the first pods are located at a distance of 10-12 cm. Each pod contains 2-4 seeds. The weight of 1000 seeds is 160-170 grams. The growing season is 115-125 days, the average yield is 30.0-32.0 centners per hectare. Suitable for mechanized cultivation.

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